

*REMARKS/ARGUMENTS**The Pending Claims*

Claims 1-18 are currently pending. Claims 1-13 are directed to semi crystalline, melt processible, partially aromatic copolyamides. Claims 14-18 are directed to a method of preparing moulded articles. Reconsideration of the pending claims is respectfully requested.

The Amendments to the Claims

Claim 1 has been amended to recite that the dimerised fatty acid has a trimerised fatty acid content of at most 3% by weight and that if the partially aromatic copolyamide is produced by condensation of the monomers or precondensates a), b) and c) where X is 6, and further d) adipic acid, the melting point of the copolyamides is at least 265°C as measured by DSC. The amendment is supported by the specification at, for example, page 4, lines 7-9, and by claim 9. Claims 14-18 have been rewritten as independent claims and are directed to a method of preparing moulded articles comprising melt processing the copolyamides of claim 1. No new matter has been added by way of these amendments.

Summary of the Office Action

Claims 1-3, 7, 14, 16 and 17 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Coquard et al. (i.e., U.S. Patent 4,680,379) (hereinafter Coquard 1). Claims 1, 3, 4, 6 and 7 stand rejected 35 U.S.C. § 102(b) as being anticipated by Coquard et al. (i.e., U.S. Patent 4,826,951) (hereinafter Coquard 2). Claims 1-7, 12 and 13 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Drawert et al. (i.e., JP 05-12584). Claims 1 and 8-11 stand rejected under 35 U.S.C. § 103(a) as obvious over Coquard (sic - Drawert et al.) in view of Nakamura (i.e., U.S. Patent 6,291,633).

The Anticipation Rejections

The anticipation rejections are moot in view of the amendment to claim 1.

A. Coquard 1 and Coquard 2

Coquard 1 and Coquard 2 teach copolyamides prepared from a mixture of adipic acid, hexamethylenediamine, optionally a short-chain dicarboxylic acid which can be terephthalic acid, and optionally a dimerised fatty acid. However, as acknowledged in the Office Action, all of the copolyamides taught by Coquard 1 and Coquard 2 necessarily have a melting point below 260°C as measured by DSC. The claims as amended include a proviso that if the copolyamides are prepared from a mixture containing adipic acid, the melting point of the copolyamides is at least 265°C as measured by DSC. Accordingly Coquard 1 and 2, alone or in combination, fail to teach each and every element of the claims as amended.

B. Drawert et al.

Drawert et al., as best understood from the English machine translation provided with the Office Action, teaches copolyamide prepared from a mixture of an aliphatic dicarboxylic acid such as adipic acid, a cyclic or aromatic dicarboxylic acid such as terephthalic or isophthalic acid, a saturated monocarboxylic acid, a diamine which can be hexamethylenediamine, an amino acid, and optionally a dimerised fatty acid. With regard to the dimerised fatty acid, Drawert et al. teaches that the amount of trimerised fatty acid present with the dimerised fatty acid is either 60-80 wt.% if undistilled, and 10-35 wt.% if distilled. The claims as amended recite that the dimerised fatty acid has a trimerised fatty acid content of at most 3% by weight. Accordingly Drawert et al. fails to teach or suggest each and every element of the claims as amended.

In view of the foregoing, the anticipation rejections are improper and should be withdrawn.

The Obviousness Rejection

The obviousness rejection is moot in view of the amendment to claim 1.

The Office Action states that claims 1 and 8-11 are rejected as allegedly obvious over Coquard in combination with Nakamura, but the discussion of the obviousness rejection is directed to the combination of Drawert et al. with Nakamura. Although it is unclear from the Office Action which rejection is being made, in order to expedite prosecution of this application, Applicants herein respond to each rejection as if it has been set forth in the Office Action.

A. Drawert et al. in combination with Nakamura

As discussed above, Drawert et al. fails to teach or suggest a copolyamide prepared from a dimerised fatty acid having a trimerised fatty acid content of at most 3% by weight. Nakamura fails to teach or suggest the use of any dimerised fatty acid, and in particular does not teach the use of a dimerised fatty acid having the trimerised fatty acid content recited in the pending claims. Since the combination of Drawert et al. and Nakamura fails to teach each and every element of the pending claims, the obviousness rejection is improper and should be withdrawn.

B. Coquard in combination with Nakamura

As discussed above, Coquard 1 (and 2) teaches copolyamides prepared from adipic acid, among other monomers, which have a melting point of at most 260°C. Coquard teaches that such copolyamides have good thermal resistance and mechanical strength due to their high melting points. Coquard further teaches that such materials are suitable for injection molding, extrusion or spinning methods to provide shaped articles with good flexibility. See col. 8, lines 36-45.

Nakamura teaches a molding polyamide resin composition comprising a mixture of crystalline copolyamide resins and a noncrystalline polyamide resin for use in fast-cycle molding to produce rigid automotive and electronic parts having high weld strength. See Abstract, col. 6, lines 38-50. Specifically Nakamura teaches use of a polyamide resin composition comprising (1) a crystalline partly aromatic copolyamide resin and/or a crystalline aliphatic polyamide resin; (2) a noncrystalline polyamide resin formed from xylylene diamine and an aliphatic dicarboxylic acid, and (3) an inorganic filler, wherein the crystalline partly aromatic copolyamide resin has a melting point of from 260 to 320°C. See col. 2, lines 17-43. Nothing in Nakamura teaches or suggests that the aromatic copolyamide can be semi-crystalline as recited by the pending claims.

One of ordinary skill in the art would not be motivated to combine the teachings of Coquard 1 and Nakamura. Coquard 1 is directed to the manufacture of *flexible* molded products, whereas Nakamura is directed to the production of *rigid* automotive and electronics parts. Nothing in Coquard 1 suggests that melting points above 260°C are desirable or

necessary to carry out injection molding or extrusion processes. Similarly nothing in Nakamura suggests how to increase the melting point of copolyamide compositions.

The Office Action asserts, without reference to source, that variations in melting point values can be achieved by changing ratios between aromatic and aliphatic fragments of the resin, and that in particular the melting point can be increased by raising the terephthalic acid content. (Office Action, p. 4, lines 11-13). The Office Action thus concludes that it would be obvious to a person having ordinary skill in the art to increase the amount of terephthalic acid in order to obtain materials with a high melting point. However this argument ignores the fact that the copolyamide recited in the pending claims, as well as the copolyamide taught by Coquard 1, is prepared from a dimerised fatty acid monomer, the presence of which is known to contribute significantly to the melting point values of the resulting copolyamide. As noted in the instant specification, "There are a lot of polyamides [containing dimerised fatty acids] which generally melt at a very low temperature..." See Application, p. 4, lines 9-13; see also p. 8, lines 7-10 ("It has in fact been shown that dimerised fatty acids in partly aromatic copolyamides produce a surprisingly low depression of the melting point...").

Contrary to the assertion in the Office Action, one of ordinary skill in the art given Nakamura and Coquard would not expect that the melting point would be increased by simply increasing the content of terephthalic acid without adjusting the amount or type of dimerised fatty acid. Rather one of ordinary skill in the art, if motivated to modify Coquard 1 with the teaching of Nakamura so as to arrive at a copolyamide having a higher melting point, would more likely eliminate the use of the dimerised fatty acid monomer. However, such a modification would not lead to the invention recited by the pending claims.

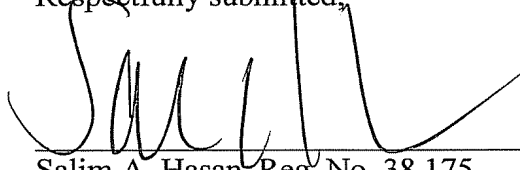
In view of the foregoing, one of ordinary skill in the art would not be motivated to combine Coquard 1 and Nakamura, and even if so motivated, would not arrive at the invention recited in the pending claims. Accordingly, the obviousness rejection is improper and should be withdrawn.

Conclusion

Applicants respectfully submit that the patent application is in condition for allowance. If, in the opinion of the Examiner, a telephone conference would expedite the

prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Salim A. Hasan', is written over a horizontal line.

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